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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/059,404	01/31/2002	Mikel R. Fulk	DP-305004	6073

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EXAMINER

GUSHI, ROSS N

ART UNIT PAPER NUMBER

2833

DATE MAILED: 04/29/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/059,404

Applicant(s)

FULK ET AL.

Examiner

Ross N. Gushi

Art Unit

2833

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 17 April 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☒ Claim(s) 16 and 17 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 112*

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 14 is rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The assembly as in claim 1, where the "lead element is a pad," was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The specification merely states that the lead may take the form of a pad, but no explanation or illustration whatsoever is provided regarding the lead being in the form of a "pad." The limitation is given no weight.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 2 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 1 states that the second coining area is adjacent the fence element and outside the connector housing (which includes the fence element). Claim 2 states that the fence element (which is part of connector housing) extends to cover a portion of the second coining area. "Adjacent" means "having a common

endpoint or border" or "not distant" or "nearby," Merriam Webster's Collegiate Dictionary, 10th ed. 1998. While applicant may be his or her own lexicographer, a term in a claim may not be given a meaning repugnant to the usual meaning of that term. See *In re Hill*, 161 F.2d 367, 73 USPQ 482 (CCPA 1947). By definition, if the coining area and fence are adjacent and the coining area is outside the fence, the fence cannot be covering the second coining area, because adjacent means having a common endpoint or border. "Adjacent" does not mean "overlapping." In order to expedite prosecution of the application however, claim 2 is analyzed below as meaning that the coining area and fence overlap.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 and 2 are rejected under 35 U.S.C. 102(b) as being anticipated by Atoh et al. ("Atoh").

Per claims 1 and 2, Atoh discloses a wire bondable connector assembly comprising at least one lead element 21 including a lead portion 22 and a carrier strip 29 portion; a first coining area 22a formed in said lead portion of said lead element; and a connector housing formed around said lead portion, said connector housing including said fence element (see attachment) covering the said first coining area such that said carrier strip portion can be separated from said lead portion without affecting the

stability of said lead portion, and a second coining area where the fence element extends to cover a portion of the second coining area.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 3-10 and 12-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamamuro in view of Capp et al. ("Capp"). Yamamuro discloses a wire bondable connector assembly comprising: at least one lead element 2 including a lead portion and a carrier strip 18 portion; a first coining area (see attachment) formed in said lead portion of said lead element; and a connector housing formed around said lead portion, said connector housing including said fence element (see attachment) covering the said first coining area such that said carrier strip portion can be separated from said lead portion without affecting the stability of said lead portion.

Yamamuro does not discuss the second coining area where the leads are separated from the carrier strip 18.

Capp discloses terminals attached to a carrier strip 24 at coined area 19 formed in said lead element and positioned between said lead portion and said carrier strip portion. At the time of the invention, it would have been obvious to have the Yamamuro leads attached to the carrier strip at a coined area, as taught in Capp. The suggestion or motivation for doing so would have been to facilitate separation of the

terminals from the carrier strip, as taught in Capp and as is well known in the art. The second coining area would necessarily be positioned adjacent (where "adjacent" means "not distant" or "nearby," Merriam Webster's Collegiate Dictionary, 10th ed. 1998) the fence element outside of the housing in order for the final leads to be configured as shown in Yamamuro figure 8.

Regarding claim 3, Yamamuro does not detail the dimensions. However, at the time of the invention, workable dimensions (including that the first coining area and said second coining area be separated by at least 0.8 mm) of the would have been a matter of routine experimentation. In re Antonie, 559 F.2d 618 (CCPA 1977). Variations in the distance would have been obvious minor adjustments without patentable significance. See In re Aller, 105 USPQ 233 (CCPA 1955)(Where general conditions of the claim are disclosed in the prior art, it is not inventive to discover optimal or workable ranges by routine experimentation).

Per claim 4, the Yamamuro connector housing is plastic.

Per claim 5, said fence element is formed integrally with said connector housing.

Per claim 6, said connector housing is formed around said lead portion using injection molding.

Per claim 7 said lead portion further include a lead surface suitable for ultrasonic wire bonding.

Per claim 8 the assembly is capable of use in a high density wire bond connector.

Per claims 9, 10, 12, 13, 14, 15, the method of securing the leads of the assembly as in claims 1-7 would have been obvious.

Claim 11 is are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamamuro in view of Capp as in claim 9 in view of Cooper et al. ("Cooper"). Yamamuro does not discuss wire bonding a wire bond to a lead surface of the lead element using ultrasonic wire bonding. Cooper discloses wire bonding a wire bond 8 to a lead surface 18 of the lead element using ultrasonic wire bonding. At the time of the invention, it would have been obvious bond a wire a lead surface of the lead element using ultrasonic wire bonding as taught in Cooper. The suggestion or motivation for doing so would have been to facilitate connection of the terminal to a printed circuit board as taught in Cooper.

### ***Response to Arguments***

Applicant's arguments have been considered. Applicant argues that claim 14 is enabled because "pad" means a flat surface. The examiner agree that a well known and accepted meaning of "pad" is a flat surface. The claim is rejected because it is not clear how one with ordinary skill would coin a flat surface in a first coining area and a second coining area and form a connector housing and fence portion over the flat surface. It is not clear whether applicant is saying that the lead element in applicant's figures 1 and 2 is a pad. If so, then the structures of the prior art relied on above may likewise be referred to as "pads." If what is shown in applicant's figures 1 and 2 is not a pad, then it is not clear how one would replace the shown element with a "pad."

Applicant argues that the coined area in Yamamuro is for a different purpose than in applicant's invention. Given that the Yamamuro coined structure is the same as

applicant's, the examiner maintains that the structure will perform the same as described by applicant.

Applicant speculates that the coined area in Yamamuro would do nothing to reduce stress transferred to the lead. Given that the Yamamuro coined structure is the same as applicant's, the examiner maintains that the structure will perform the same as described by applicant.

Applicant argues that the second coining area is outside the housing and adjacent the fence area, but the second coining area is also covered by the fence area (which is part of the housing) and is therefore not obvious. As noted in the 35 USC 112 rejection above, the examiner does not understand what this means. How can the coining area be both outside the housing and covered by the housing.

Regarding claim 11, applicant argues that it would not have been obvious to bond a wire as suggested. The examiner maintains that it would have been obvious and the suggestion or motivation for doing so would have been to facilitate connection of the terminal to a printed circuit board as taught in Cooper.

#### ***Allowable Subject Matter***

Claims 16 and 17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Regarding claims 16 and 17, the prior art does not suggest the assembly or method as claimed, including the combination of all the claimed elements (or steps), the combination including the lead portion and the carrier strip are positioned within a common plane.

***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ross Gushi whose telephone number is (703) 306-4508. If attempts to reach the examiner by phone are unsuccessful, the examiner's supervisor, Paula A. Bradley, can be reached at (703) 308-2319. The phone number for the Group's facsimile is (703) 308-7766

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